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**“जानने का अधिकार, जीने का अधिकार”**

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

**“पुराने को छोड़ नये के तरफ”**

Jawaharlal Nehru

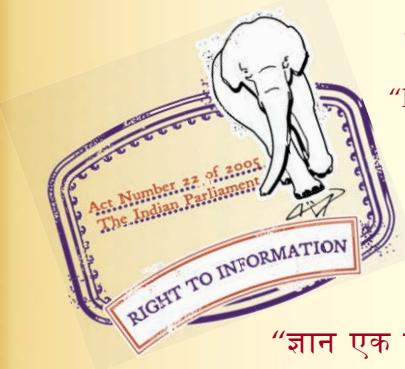
“Step Out From the Old to the New”

IS 4490 (1968): Forceps, Dilating, Trousseau's [MHD 1:  
Surgical Instruments]

**“ज्ञान से एक नये भारत का निर्माण”**

Satyanaaranay Gangaram Pitroda

“Invent a New India Using Knowledge”



**“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”**

Bhartṛhari—Nītiśatakam

“Knowledge is such a treasure which cannot be stolen”





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IS : 4490 - 1968

*Indian Standard* REAFFIRMED 2015  
**SPECIFICATION FOR  
FORCEPS, DILATING, TROUSSEAU'S**

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INDIAN STANDARDS INSTITUTION  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 1

~~Revised Price~~ Gr 2

March 1968

*Indian Standard*  
**SPECIFICATION FOR  
 FORCEPS, DILATING, TROUSSEAU'S**

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(Continued on page 2)

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( *Continued from page 1* )

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# *Indian Standard*

## SPECIFICATION FOR FORCEPS, DILATING, TROUSSEAU'S

### 0. FOREWORD

**0.1** This Indian Standard was adopted by the Indian Standards Institution on 29 January 1968, after the draft finalized by the Surgical Instruments Sectional Committee had been approved by the Consumer Products Division Council.

**0.2** The formulation of Indian Standards on surgical instruments has been taken up on the recommendations of the Advisory Committee for the Development of Surgical Instruments, Equipment and Appliances, Government of India.

**0.3** This Indian Standard is one of a series of Indian Standards on surgical instruments. Other standards published so far in the series appear at P 6.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

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### 1. SCOPE

**1.1** This standard lays down the requirements for Troussseau's dilating forceps used in ENT work.

### 2. MATERIAL

**2.1** The forceps and spring shall be made from stainless steel conforming to Designation 30Cr13 of Schedule V of IS : 1570-1961†.

**2.2** The screws shall be of stainless steel conforming to the Designation mentioned in 2.1 or 20Cr18Ni2 of Schedule V of IS : 1570-1961†.

### 3. SHAPE AND DIMENSIONS

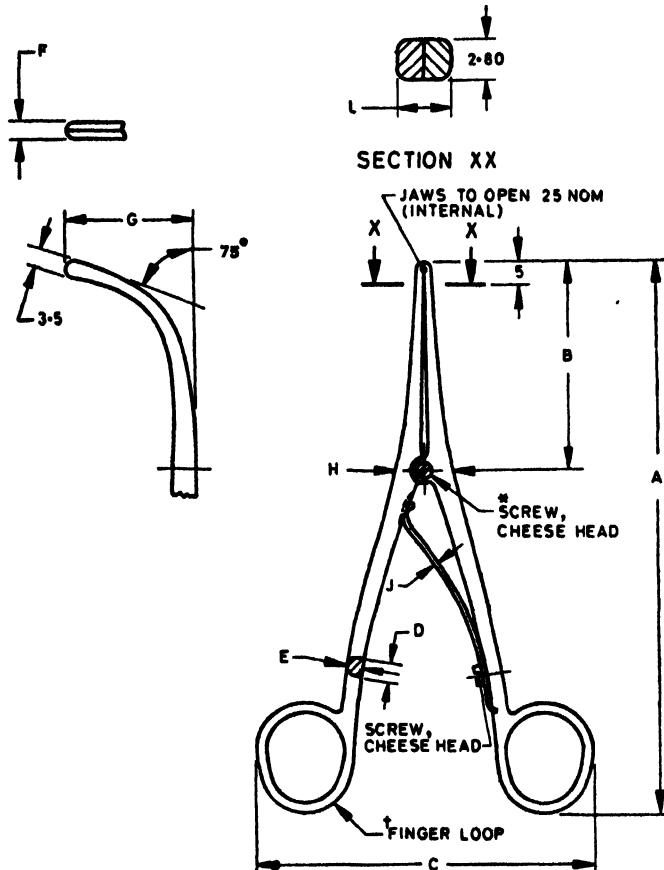
**3.1** The general shape and dimensions of the forceps shall be as indicated in Fig. 1.

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\*Rules for rounding off numerical values (revised).

†Schedules for wrought steels for general engineering purposes.

**3.2 Joint** — The joint of the forceps shall be as given in Fig. 1. The other requirements for the joint shall be the same as in 6 of Section 2 of IS : 3642-1966\*.



SIZE	A	B	C	D	E	F	G	H	J	L	*SCREW	†FINGER LOOP
CHILD	105	45	85	3	3	2·5	25	12	1·0	3·45	M 2	No. 1
ADULT	145	55	90	4	4	3·0	30	15	1·5	3·75	M 2·5	No. 2

**NOTE** — For finger loop, see IS : 3642-1966 General requirements for surgical instruments.

( All dimensions in millimetres )

FIG. 1 DILATING FORCEPS, TROUSSEAU'S PATTERN

#### \*General requirements for surgical instruments.

#### **4. WORKMANSHIP AND FINISH**

**4.1** The forceps shall be of a symmetrical and balanced construction, and shall open and close without jerk. It shall be capable of opening fully when a force of 250 to 400 gf is applied on one finger loop approximately at its equator, while the other arm is fixed. The jaws shall close accurately. The forceps shall be free from surface defects like scales, burrs, pits, cracks and seams. All sharp edges shall be rounded smooth. The forceps shall be passivated and polished bright.

#### **5. HEAT-TREATMENT**

**5.1** The forceps and its spring shall be suitably hardened and tempered to give a uniform hardness of 430 to 490 HV.

#### **6. TESTS**

**6.1 Flexibility** — The finger loops of the forceps shall be pressed completely in a suitable device. The tips shall then be pressed so as to bring them closer by 5 mm measured at the extreme end and released. The forceps shall not have any permanent set after the test.

**6.2 Corrosion Resistance** — The forceps shall be tested for corrosion resistance as given in 6.2.1 and 6.2.2.

**6.2.1 Copper Sulphate Test** — The sample shall be scrubbed with soap and warm water, rinsed in hot water, followed by a dip in ethyl alcohol (95 percent) and dried. The sample shall be completely immersed in copper sulphate solution at room temperature for six minutes and shall then be washed off with fresh water or wet cotton wool. The copper sulphate solution shall be made up as follows:

Copper sulphate ( CuSO <sub>4</sub> .5H <sub>2</sub> O )	4·0 g
Sulphuric acid ( H <sub>2</sub> SO <sub>4</sub> ) ( sp gr 1·84 )	10·0 g
Water ( H <sub>2</sub> O )	90·0 ml

**6.2.2** There shall be no red stains or spots on the sample after the test, but the polished surface getting dull may be permitted.

**6.3 Spring** — The spring shall be tested by pressing either arm to the extreme position and released. On repeating this for 50 times, there shall be no permanent set observed and the jaws shall not gape.

#### **7. MARKING**

**7.1** Each forceps shall be clearly and indelibly marked with the manufacturer's name, initials or trade-mark, in addition to the words 'STAINLESS STEEL'.

### 7.1.1 The forceps may also be marked with the ISI Certification Mark.

**Note** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 8. PACKING

**8.1** The forceps shall be wrapped in moisture-proof paper or polyethylene bag; then they shall be packed in a manner that coming into contact with each other is avoided.

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IS :		Rs
3318-1965	General requirements for surgical scalpels and knives ...	1.00
3319-1965	Surgical scalpels with detachable blades ( Bard Parker type ) ...	3.00
3320-1965	Surgical scalpels ... ... ...	1.00
3642-1966	General requirements for surgical instruments ...	2.50
3643-1966	Dissecting forceps ( serrated and toothed ) ...	2.00
3644-1966	Artery forceps ( Halsted's mosquito pattern ) ...	1.50
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4487-1968	Forceps, tonsil artery ( Birkett's pattern ) ( <i>under print</i> ) ...	—
4488-1968	Forceps, tonsil holding ( Muck's and White's pattern ) ( <i>under print</i> ) ...	—
4489-1968	Forceps, nasal turbinale, Luc's ( <i>under print</i> ) ...	—
4490-1968	Forceps, dilating, Troussseau's ...	2.00

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## INDIAN STANDARDS

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**Electrotechnical  
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Textile**

Of these, the standards belonging to the Consumer Products Group, at present, fall under the following categories:

Coir and Coir Products	Safety Matches
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Oil and Gas Burning Appliances	Utensils and Cutlery
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AMENDMENT NO. 1 JULY 1975

TO

IS:4490-1968 SPECIFICATION FOR FORCEPS,  
DILATING, TROUSSEAU'S

Alterations

(Page 5, clauses 6.2 and 6.2.1) - Substitute  
the following for the existing clauses:

'6.2 Corrosion Resistance - The instrument shall  
satisfy the boiling and autoclaving test as men-  
tioned in IS:7531-1975\*.'

(Page 5, foot-note) - Insert the following foot-  
note at the bottom of the page:

'\*Method for boiling and autoclaving test for  
corrosion resistance of stainless steel surgical  
instruments.'

(CPDC 11)

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Reprography Unit, ISI, New Delhi